



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,992	03/02/2004	Mikhail Nemenov		1316

7590  
JOHN R. ROSS  
PO BOX 2138  
DEL MAR, CA 92014

EXAMINER
----------

JOHNSON III, HENRY M

ART UNIT	PAPER NUMBER
----------	--------------

3739

MAIL DATE	DELIVERY MODE
-----------	---------------

02/25/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/790,992	<b>Applicant(s)</b> NEMENOV ET AL.	
	<b>Examiner</b> Henry M. Johnson, III	<b>Art Unit</b> 3739	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 14 January 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 12-15, 17-22 and 24-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-15, 17-22 and 24-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

### ***Response to Arguments***

The Declaration filed on January 14, 2008 under 37 CFR 1.131 has been considered but is ineffective to overcome the Greffrath et al. reference.

The evidence submitted is insufficient to establish a reduction to practice of the invention in this country or a NAFTA or WTO member country prior to the effective date of the Greffrath et al. reference. The Declaration failed to include the all attachments cited therein, although attachment 1 was available as it was the Greffrath et al. reference. The chronology of events is not sufficient to establish reduction to practice without documentation, such as laboratory notes, to substantiate the Applicant's activity. Further, as previously stated, two of the co-authors of the Greffrath et al. reference have refused to disclaim inventorship indicating a potential inventorship conflict.

### ***Inventorship***

In view of the papers filed January 14, 2008, the inventorship in this nonprovisional application has been changed by the deletion of David Clifford Yeomans.

The application will be forwarded to the Office of Initial Patent Examination (OIPE) for issuance of a corrected filing receipt, and correction of Office records to reflect the inventorship as corrected.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 12-15, 17, 24-26 and 28-31 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over "Inward currents in primary nociceptive neurons of the rat and pain sensations in humans elicited by infrared diode laser pulses"; Greffrath et al.; International Association for the Study of Pain, September 2002. Greffrath et al. Greffrath et al. teaches that stimulation of the human skin with radiant heat stimuli generated by infrared lasers typically leads to a stinging and/or burning sensation. This painful sensation is mediated through activation of peripheral endings of A $\delta$ - and C-fiber nociceptors. A personal computer controlled laser platform based on six GaInAs/GaAs laser diodes (980 nm wavelength) yielding up to 15 W output power into a flexible glass fiber core is disclosed for thermal stimulation. Stimulus intensity was changed by varying the laser power (2.8–11 W) and/or stimulus duration (4–400 ms). The small durations and interval clearly indicate the treatment is pulsed. The interstimulus interval following the appearance of  $I_{\text{heat}}$  was at least 44 s. Greffrath et al. disclose treatment beam diameters from 0.36 to 1.2 millimeters. A skilled artisan would select a spot size and delivery fiber most appropriate for the desired target area.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and

invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greffrath et al. as applied to claim 12 above, and further in view of "A Laser Stimulator for the Study of Cutaneous Thermal and Pain Sensations", Meyer et al., Biomedical Engineering, IEEE Transactions on Biomedical Engineering, Volume: BME-23, Issue: 1, January 1976. Greffrath et al. are discussed above, but do not teach closed loop temperature control. Meyer et al. teach the laser stimulation of nerves using a radiometer to provide temperature feedback to the laser control (Fig. 3). It would have been obvious to one skilled in the art to use the temperature feedback as taught by Meyer et al. in the invention of Greffrath et al. as such feedback control is pervasive in the art.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Greffrath et al. as applied to claim 12 above, and further in view of U.S. Patent 6,233,480 to Hochman et al. Greffrath et al. are discussed above, but do not teach single cell differentiation. Hochman et al. teach the imaging of single nerve cells, thus enabling the targeting of a single cell. It would have been obvious to one skilled in the art to imaging as taught by Hochman et al. in the invention of Greffrath et al. to identify a single nerve cell as a target for stimulation.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the

Art Unit: 3739

mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry M. Johnson, III whose telephone number is (571) 272-4768. The examiner can normally be reached on Monday through Friday from 5:30 AM to 2:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C. Dvorak can be reached on (571) 272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Henry M. Johnson, III/  
Primary Examiner  
Art Unit 3739

/HMJ/  
2/16/2008